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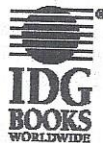page or a corporate
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A Bit of Background

Every book has to start somewhere. This chapter starts from square one by introducing you to the concept of a spreadsheet. Also included is a lot of interesting background information about Excel and Windows.

What Is Excel?

Excel is a software product that falls into the general category of spreadsheets. Excel is one of several spreadsheet products that you can run on your PC. Others include 1-2-3 and Quattro Pro.

A *spreadsheet* (including Excel) is a highly interactive computer program that consists of a collection of rows and columns displayed onscreen in a scrollable window. The intersection of each row and column is called a *cell*, which can hold a number, a text string, or a formula that performs a calculation by using one or more other cells. Copying and moving cells and modifying formulas is easy with a spreadsheet.

A spreadsheet can be saved in a file for later use or discarded after it has served its intended purpose. The cells in a spreadsheet can be formatted in various ways and printed for hard-copy reference. In addition, groups of numerical cells can be used to generate charts and maps.

The most significant advantage of an electronic spreadsheet is that the formulas recalculate their results if you change any of the cells that they use. As a result, after you set up your spreadsheet by defining formulas, you can use this "model" to explore different possibilities, with very little additional effort. Excel is currently the best-selling Windows spreadsheet — and I hope to explain why in this book.

The Evolution of Excel

Excel 2000 is actually Excel 9 in disguise.

A bit of rational thinking might lead you to think that this is the ninth version of Excel. Think again! Microsoft may be a successful company, but its version-naming techniques can be quite confusing. As you'll see, Excel 2000 actually is the seventh version of Excel.

Excel 2

Excel 2 was the original version of Excel for Windows, which first appeared in late 1987. It was labeled Version 2 to correspond to the Macintosh version, which was the original Excel. Because Windows wasn't in widespread use at the time, Version 2 included a *run-time* version of Windows — a special version with just enough features to run Excel and nothing else. This version was quite crude by today's standards and was actually quite ugly.

Excel 3

At the end of 1990, Microsoft released Excel 3 for Windows. This was a significant improvement in both appearance and features. It included toolbars, drawing capabilities, worksheet outlining, add-in support, 3D charts, workgroup editing, and lots more.

Excel 4

Excel 4 hit the streets in the spring of 1992. This version made quite an impact in the marketplace, because Windows was becoming more popular. It had lots of new features, many of which made it easier for beginners to get up to speed quickly.

Excel 5

In early 1994, Excel 5 appeared on the scene. This version introduced tons of new features, including multisheet workbooks and the new Visual Basic for Applications (VBA) macro language. Like its predecessor, Excel 5 took top honors in just about every spreadsheet comparison that was published in the trade magazines.

Excel 7

Technically, this version was called Excel for Windows 95 (there was no Excel 6). It began shipping in the summer of 1995. On the surface, this version wasn't that

much different from Excel 5, and included only a few major new features. But Excel 7 was significant, because it was the first version to use the more advanced 32-bit code. Excel 7 and Excel 5 used the same file format.

Excel 8

Excel 8 (officially known as Excel 97) was probably the most significant Excel upgrade ever. The toolbars and menus had a great new look, online help took a dramatic step forward, and the number of rows available in a worksheet quadrupled. Developers were pleased to discover that Excel's programming language (VBA) improved significantly in Excel 97.

Excel 9

Excel 9 (better known as Excel 2000) is the topic of this book (although most of the material is also relevant to Excel 97). Excel 2000 has quite a few enhancements, but its most significant advancement is the capability to use HTML as a standard file format. Chapter 2 provides a list of all the new features in Excel 2000.

Excel's Competitors

Although Excel is usually considered the best spreadsheet available, it does have competitors, the two main ones being 1-2-3 and Quattro Pro.

The three leading spreadsheets are similar in their basic capabilities. For example, they all let you work with multiple worksheets in a single file; they all support a wide variety of charts; and they all have macro capabilities to help you automate or customize your work.

Many users, myself included, find that Excel is superior to the other products in both power and ease of use.

What Excel Has to Offer

Excel is a feature-rich product that can be used at many different levels. Chances are good that you won't need all of Excel's features, but you should become generally familiar with what they can do. Otherwise, you could seek another software product to accomplish a particular task, and not even realize that Excel has a feature that can accomplish it. Or, you could spend lots of time performing a task manually that Excel can handle automatically.

The following is a quick overview of what Excel can do for you. All of these topics are discussed in subsequent chapters of this book.

Multisheet Files

Excel's files (called *workbooks*) can consist of any number of separate sheets, and you access these sheets by clicking a notebook-like tab. The sheets can be worksheets or chart sheets. This feature makes organizing your work easy. For example, you can keep all of your budgeting spreadsheets in a single workbook.

Multiple Document Interface

Excel enables you to work with many files simultaneously; you don't have to close a file to consult another file (see Figure 1-1). This capability enables you to transfer information easily between worksheets in different workbooks.
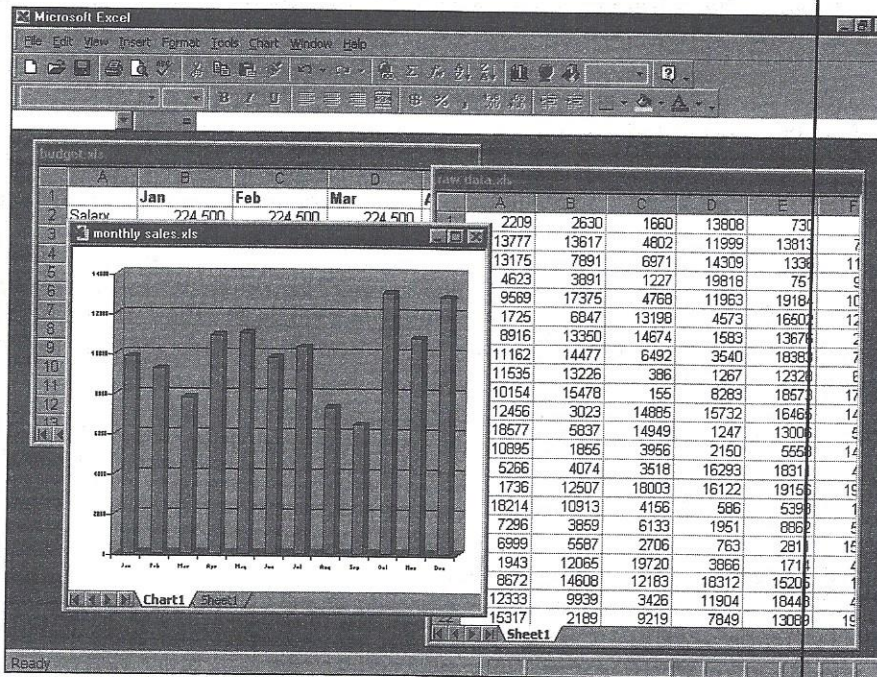
Figure 1-1: Excel enables you to work with as many different files as you need.

File Compatibility

Excel has its own file format, identifiable by the XLS file extension. In addition, Excel can read files produced by other spreadsheet programs (such as 1-2-3 and Quattro Pro), and it can read text files, dBASE files, and HTML documents.

Interactive Help

Computer documentation keeps getting better. In the past, users were lucky if the manual that accompanied a software product accurately covered all the features. Nowadays, the trend is away from written manuals and toward online help. Almost all applications, including Excel, emphasize *online help* — in other words, you can get help onscreen while working in Excel. Excel's online help is excellent and extremely detailed.

Figure 1-2 shows the Office Assistant, which serves several purposes, including:

✦ It observes your actions and stores up a series of tips, which can save you time. You can choose to view these tips whenever you want.

✦ It provides specific help with certain aspects of the program (for example, creating charts).

✦ If you enter an invalid formula, it will often make a suggestion on how to correct it.

✦ It provides an easy way to search for help on a particular topic. Just enter your question in natural language, and the Office Assistant displays a list of relevant help topics.

Easy-to-Use Features

Excel may well be the easiest-to-use spreadsheet available. It includes many features designed specifically to make commonly performed tasks straightforward and fast for both beginners and experts. The program walks you step by step through several procedures, and basic editing and formatting commands are intuitive and efficient. For example, a single dialog box enables you to change any aspect of formatting for a cell or range, and right-clicking anything brings up a context-sensitive shortcut menu.

List Management

Among Excel's most significant strengths is how well it works with lists stored in a worksheet. This feature makes it easy to sort, filter, summarize, and manipulate data stored in your worksheet.
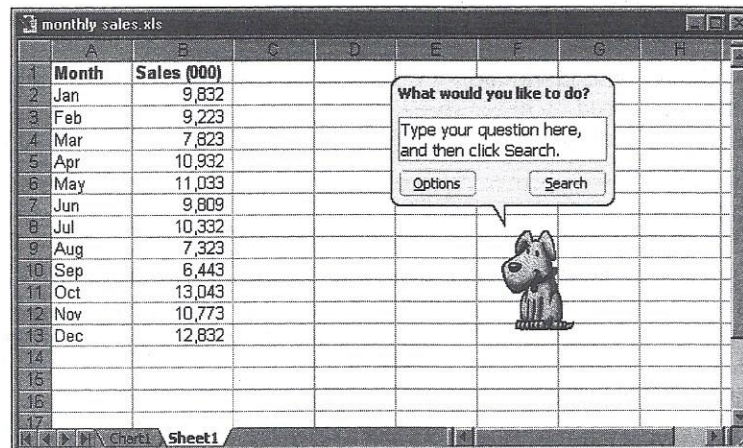
Figure 1-2: The Office Assistant pops up to provide help when needed.

Built-in Functions

Excel includes an enormous collection of built-in functions that you can use in your formulas. In addition to common functions, such as SUM and AVERAGE, you can choose functions that perform sophisticated operations that otherwise are difficult or impossible to do. For example, the CORREL function calculates the correlation coefficient for two sets of data. You also can develop other functions by using the VBA macro language (it's not as difficult as you may think).

Customizable Toolbars

Excel's *toolbars* — groups of buttons representing commands — are real time-savers, enabling you to perform common commands without using the menu. You can customize your toolbars by adding buttons for tasks that you do most often. To find out what a button does, drag the mouse over a toolbar button and pause for a second. Excel pops up a brief description of the button.

Beginning with Excel 97, the menu bar at the top of the screen is actually a toolbar. As such, you can easily customize it or even move it to a different location on the screen.

Flexible Text Handling

Although Excel's forte is number crunching, it's not too shabby at handling text. You can format or orient text that you put in cells. You also can insert text boxes (which you can move and resize) anywhere on your worksheet.

Rich Text Formatting

Excel is the only spreadsheet that enables you easily to format individual characters within a cell. For example, if a cell contains text, you can make one letter bold or a different color.

Great Charts

Excel's charting features — among the best available in any spreadsheet — enable you to modify and augment a wide assortment of graph types. You can insert a chart anywhere in a worksheet or place it on a special chart sheet.

Integrated Mapping

Excel's mapping feature lets you display your data in the form of a geographic map (see Figure 1-3). For example, you can easily create an attractive map that shows your company's sales volume by state.
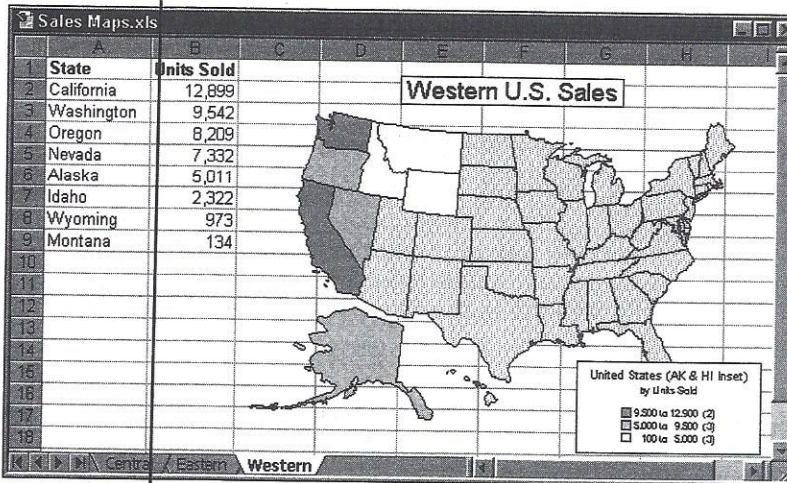
Figure 1-3: This map was generated with only a few mouse clicks.

Drawing Tools

Excel includes an excellent set of drawing tools that enables you to create attractive diagrams and basic drawings directly on your worksheet or chart. For example, you can include a simple flow diagram along with your numerical analysis.

Worksheet Outlining

Spreadsheet outlining enables you to collapse hierarchical information to show any level of detail. People who work with multilevel budgets will find this feature particularly valuable.

Pivot Tables

A pivot table makes it easy to change how you view a table of data. A pivot table can quickly summarize a list or database, and you can use drag-and-drop techniques to change the layout of the table. If you work with multidimensional data, you should check out this powerful feature—which I consider to be one of Excel's major strengths.

Advanced Analytical Tools

Analytical types will be particularly excited about Excel's unique *array* feature, which enables you to do things that are impossible in other spreadsheets. Excel also includes goal seeking, a powerful Solver feature, and the Analysis ToolPak add-in, which provides extensive statistical, financial, engineering, and scientific functions and procedures.

Flexible Printing and Print Preview

When you are ready to put your work on paper, you'll be pleased to see how easy it is. Besides normal WYSIWYG (*What You See Is What You Get*) formatting, Excel provides a handy print preview feature. From the preview window, you can easily make last-minute adjustments, including new column widths and margins. In addition, a Page Break Preview mode lets you adjust the page breaks by using simple dragging techniques.

Worksheet Auditing and Annotation

No one's perfect, but Excel can help you get closer to that goal. Excel provides a variety of auditing tools to help you track down errors and potential errors in your worksheet formulas.

A feature in Excel automatically displays comments attached to cells when the user drags the mouse over a cell that contains a comment. This is an excellent way to remind others (or yourself) what a particular cell represents.

Scenario Management

Spreadsheets are often used for *what-if analysis* — change one or more assumptions and observe the effects on dependent formulas. Excel simplifies this process with its scenario manager.

You can name scenarios, switch among scenarios (with just a few mouse clicks), and generate reports that summarize the results of your scenarios.

Spell Checking and AutoCorrect

An integrated spell checker spots spelling errors in your worksheets and charts, so you need never again display a chart titled "Bugdet Review" in a crowded boardroom.

Excel has borrowed a handy feature, AutoCorrect, from Microsoft Word. This corrects many types of input errors as you type. For example, if you enter *BUdget* into a cell, Excel automatically changes the second letter to a lowercase *u*. You can also use this feature to develop your own shorthand. For example, you can instruct Excel to replace IWC with International Widget Corporation.

Templates

If your work tends to fall into a few specific categories, it may be worth your time to set up custom spreadsheet *templates*, which are preconfigured shells that include text, row, and column headings, as well as formats, column widths, macros, and so on. You can use these templates to help create similar spreadsheets.

Excel has a Template Wizard that walks you through the steps required to create a custom template. Excel also includes a few handy templates that you may find useful. An example of such a template is shown in Figure 1-4.

Database Management

You can work with spreadsheet data as if Excel were a database. Excel features all the standard database commands and enables you to work with databases that are stored in external files.

XLM Macro Compatibility

In older versions of Excel, you could create macros by using special macro functions in XLM documents. Although Visual Basic for Applications is a much better macro language, Excel 2000 still supports XLM macros. This means that you can continue to run macros that were developed for older versions of Excel (Excel 4 and earlier).

Figure 1-4: Expense Statement1 is one of several templates included with Excel 2000.

Visual Basic for Applications (VBA)

VBA is a powerful programming language that is built right into Excel (as well as several other Microsoft products). After you learn VBA's ropes, you can do magic with your Excel workbooks.

Custom Dialog Boxes

Excel makes it very easy to create custom dialog boxes (also known as user forms). Custom dialog boxes usually are used in conjunction with VBA macros that you write.

Worksheet Controls

With Excel, you can insert functional "dialog box" controls (such as buttons, scrollbars, list boxes, and check boxes) directly on your worksheet. You can even link these controls to cells without using macros. Figure 1-5 shows an example of such controls.
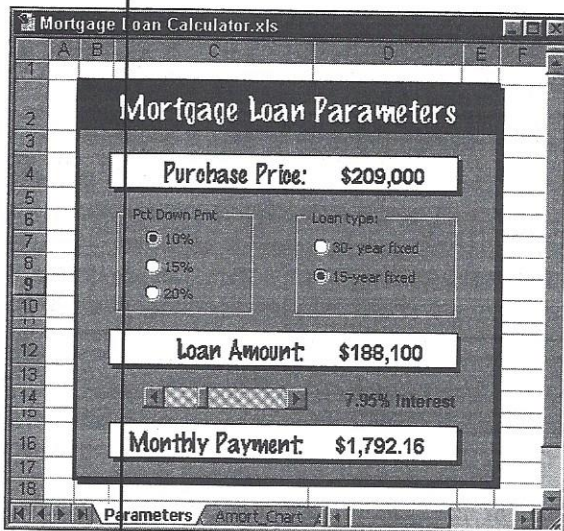
Figure 1-5: You can add functional controls, such as buttons, scrollbars, list and check boxes, directly to your worksheet to make it easier to use.

Protection Options

If you need to keep others (or yourself) from modifying your worksheet, you'll find that Excel offers a variety of protection techniques. For example, you can protect cells that contain formulas, to eliminate the possibility of accidentally deleting an important formula.

Add-In Capability

Excel supports add-ins — a feature that lets you enhance the program's functionality. Excel includes several add-ins, and you can use VBA to create your own add-ins.

OLE Support

Excel supports Microsoft's Object Linking and Embedding (OLE) technology, which makes data sharing easier than ever. For example, you can embed a Word for Windows document in a worksheet and then access all of the features of Word right in your worksheet.

Internet Support

Excel 2000 includes a variety of features that make it easy to access Internet documents, save and retrieve documents stored in HTML format, and create hyperlinks directly in your spreadsheet documents.

Cross-Platform Consistency

Excel runs on the Macintosh and the PC (in Windows); in fact, the versions are very similar across the two platforms. If you learn the Windows version, you can move to a Mac and feel right at home.

Summary

This chapter introduces the concept of a spreadsheet, presents a brief history of Excel, and examines Excel's evolution within the Microsoft environment. The bulk of the chapter provides an overview of Excel's key features — all of which are covered in subsequent chapters.

✦   ✦   ✦

Navigating Through Excel

Because you'll spend lots of time working in Excel, you need to understand the basics of navigating through workbooks and how best to use Excel's user interface. If you're an experienced Windows user, some of this information may already be familiar to you, so this is your chance to learn even more.

If you're new to Excel, some of the information in this chapter may seem confusing. It will become clearer as you progress through the other chapters, however.

Working with Excel's Windows

The files that Excel uses are known as *workbooks*. A workbook can hold any number of sheets, and these sheets can be either worksheets (a sheet consisting of rows and columns) or chart sheets (a sheet that holds a single chart). A *worksheet* is what people usually think of when they think of a spreadsheet.

Figure 4-1 shows Excel with four workbooks open, each in a separate window. One of the windows is minimized and appears near the top-right corner of the screen (when a workbook is minimized, only its title bar is visible).

Worksheet windows can overlap so that the title bar of one window is a different color. That's the window that contains the *active workbook*.

The workbook windows that Excel uses work much like the windows in any other Windows program. Excel's windows can be in one of the following states:

✦ **Maximized:** Fills Excel's entire workspace. A maximized window does not have a title bar, and the worksheet's name appears in Excel's title bar. To maximize a window, click its Maximize button.

✦ **Minimized:** Appears as a small window with only a title bar. To minimize a window, click its Minimize button.

✦ **Restored:** A nonmaximized size. To restore a maximized or minimized window, click its Restore button. If you work with more than one workbook simultaneously (which is quite common), you have to learn how to move, resize, and switch among the workbook windows.
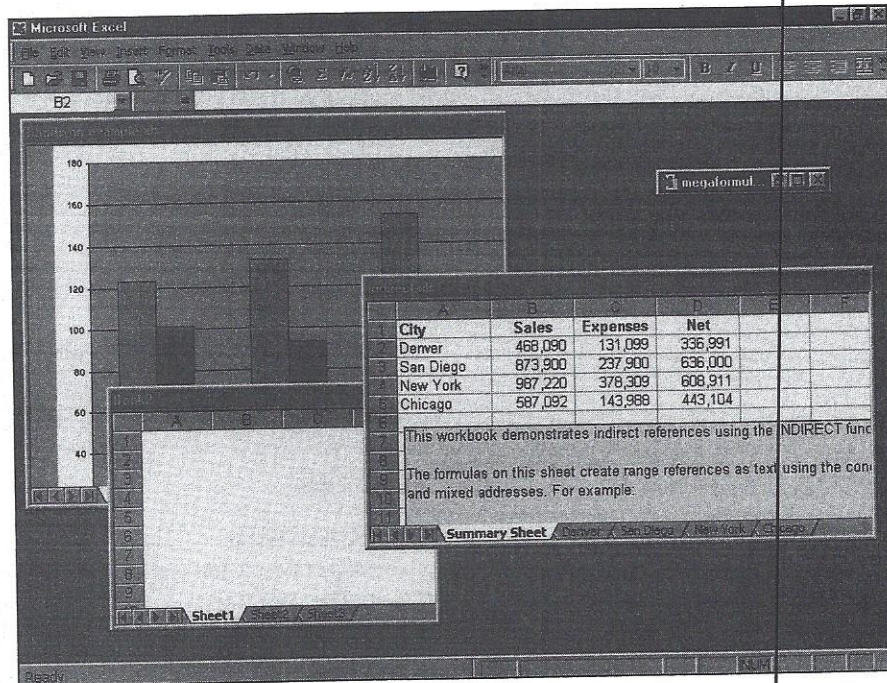
Figure 4-1: Excel with four workbooks open, one of them minimized.

As you're probably aware, Excel itself is contained in a window. Excel's window also can be maximized, minimized, or displayed in a nonmaximized size. When Excel's window is maximized, it fills the entire screen. You can activate other programs by using the Windows taskbar (usually located at the bottom of your screen).

Moving and Resizing Windows

You *cannot* move or resize a workbook window if it is maximized. You *can* move a minimized window, but doing so has no effect on its position when it is subsequently restored.

To move a window, click and drag its title bar with your mouse. Note that the windows can extend offscreen in any direction, if you want them to.

To resize a window, click and drag any of its borders until it's the size that you want it to be. When you position the mouse pointer on a window's border, the mouse pointer changes shape, which lets you know that you can now click and drag to resize the window. To resize a window horizontally and vertically at the same time, click and drag any of its corners.

If you want all of your workbook windows to be visible (that is, not obscured by another window), you can fiddle around by moving and resizing the windows manually, or you can let Excel do it for you. The Window ⇨ Arrange command displays the Arrange Windows dialog box, shown in Figure 4-2. This dialog box has four window-arrangement options. Just select the one that you want and click OK.
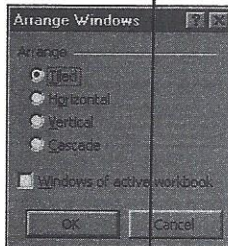
Figure 4-2: The Arrange Windows dialog box makes it easy to arrange the windows of all open workbooks.

Switching Among Windows

As previously mentioned, at any given time, one (and only one) workbook window is the active window. This is the window that accepts your input, and it is the window on which your commands work. The active window's title bar is a different color, and the window appears at the top of the stack of windows.

The following are several ways to make a different window the active workbook:

✦ Click another window, if it's visible. The window you click moves to the top and becomes the active window.

✦ Press Ctrl+Tab to cycle through all open windows until the window that you want to work with appears on top as the active window. Shift+Ctrl+Tab cycles through the windows in the opposite direction.

✦ Click the Window menu and select the window that you want from the bottom part of the pull-down menu. The active window has a check mark next to it, as shown in Figure 4-3. This window can display up to nine windows. If you have more than nine workbook windows open, choose More Windows (which appears below the nine window names).

EXCEL 2000

Excel 2000 offers another way to make a different window the active workbook: Click the icon in the Windows taskbar that represents the workbook window that you want to view. This feature works only with Windows 98.

Choose one
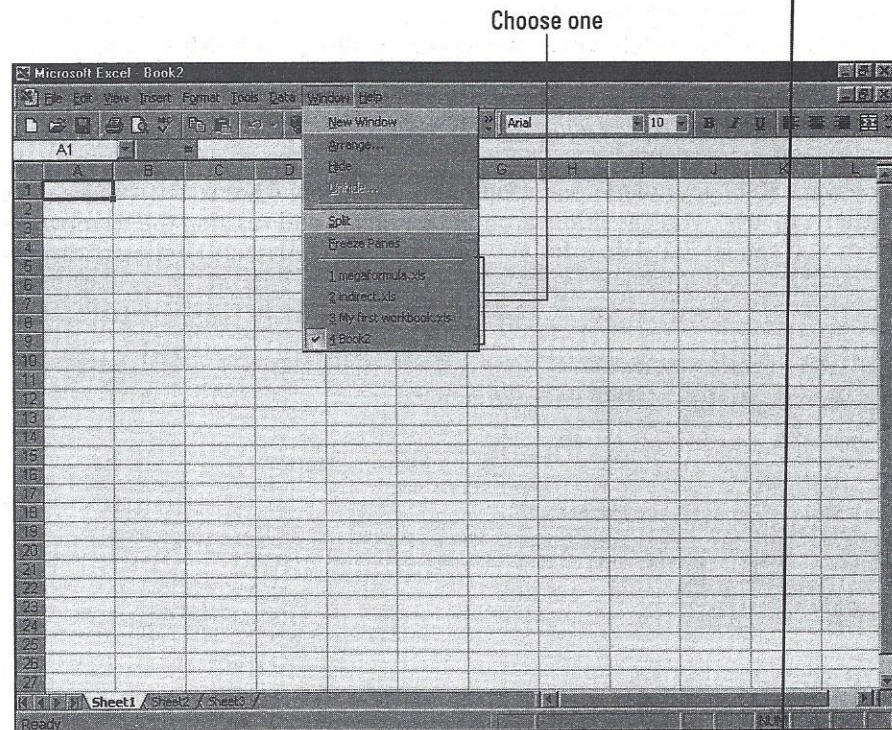
**Figure 4-3:** You can activate a different window by selecting it from the pull-down Window menu.

Many users (myself included) prefer to do most of their work with maximized workbook windows. This enables you to see more cells and eliminates the distraction of other workbook windows getting in the way. And besides, it's easy to activate another workbook window when you need to use it.

When you maximize one window, all the other windows are maximized, too (but you can't see them). Therefore, if the active window is maximized and you activate a different window, the new active window is also maximized. If the active workbook window is maximized, you can't select another window by clicking it (because other windows aren't visible). You must use either Ctrl+Tab, the Windows taskbar, or the Window menu to activate another window.

When would you *not* want to work exclusively with maximized worksheet windows? Excel also has some handy drag-and-drop features. For example, you can drag a range of cells from one workbook window to another. To do this type of drag and drop, both windows must be visible (that is, not maximized).
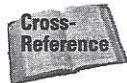
Cross-Reference   Chapter 8 discusses Excel's drag-and-drop features.